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ABSTRACT

Ten mothers and their children (4 to 8 years old) interacted in a situation analogous to that thought to precipitate child abuse. Without directly observing the child, each mother telemetrically monitored her child's performance on a puzzle. Following an error, she selected the intensity of punishment to be delivered. However, the frequency of errors was electromechanically generated independent of the child's performance. Concurrently, mothers worked on another task unrelated to the child where the magnitude and ambiguity of response demands were manipulated. Maternal punitiveness was directly related to both the external response demands and the frequency of interruptions (the child's errors) which necessitated administering discipline. (Author)

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Stress Affects Maternal Punitiveness: A Model for Investigating Child-Abuse

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Discipline for children is commonly thought to vary in intensity with the environmental stress under which the parent is functioning (e.g., Gelles, 1973). If these situational influences are extreme, discipline may take the form of physical child-abuse (Gelles, 1973; Gil, 1970). These environmental demands may be independent of the child's actions (e.g., economic, social, or emotional) (Alvy, 1975). On the other hand, the stressors may involve precipitating behaviors by the child (for instance, demands for attention or transgressions interrupting parents' behaviors). No doubt, the role of variables determining parental punitiveness is of critical importance to contemporary concerns with child-abuse (Alvy, 1975). However, conceptions regarding the effect of environmental stress upon punitiveness or child-abuse have received little direct corroboration under controlled conditions. Support has usually been limited to correlational data which eliminate the possibility of determining cause-and-effect relationships. Few hypotheses in this area have been experimentally tested a priori (Gelles, 1973; Spinetta & Rigler, 1972).

Traditionally, studies of parent-child relations have concentrated upon the manner in which the behavior of the parent affects that of the child but seldom upon the child's effects on the parent's behavior. However, this unidirectional approach has been criticized as being severely limited (Berberich, 1971). Recently, Gewirtz and Boyd (1976) have suggested that the behavior of the child be manipulated to study the child's influence upon the parent's behavior. An application for this interactionist rationale would be the parent's choice of disciplinary tactics following transgressions by the child.

The objective of this study was to investigate the effects of environmental demands upon parental discipline in a controlled laboratory setting in which stress was induced. As a mild stressor independent of children's behaviors, response requirements of mothers for success on a simple goal oriented task were made high and ambiguous. Hendry (1969) has proposed that uncertainty (that is, a lack of sufficient information regarding response requirements) induces aversive motivational states. As a stressor apparently dependent upon the child's behavior, the mother's task was interrupted by her child's making errors on an unrelated task which she was supervising. Since children who are difficult to supervise are often victims of child-abuse (Johnson & Morse, 1968), the frequency of the child's interruptions requiring parental attention appear related to the intensity of discipline. By having the mother perform one task and simultaneously monitor misbehaviors of her child on another, a situation analogous to that thought to precipitate child-abuse was established.

Consider the following example. A parent is home preparing dinner when suddenly the spouse calls to say that there will be guests arriving shortly. (Note that this stress is independent of the child's behavior.) Meanwhile, the child also begins to make demands upon the parent (such as requesting feeding, diapering, or merely attention). Like the example, in our study it was anticipated that parental punitiveness following interruptions by the child would be directly related to the external response requirements demanded of the parent and also to the frequency of the child's interruptions which necessitated the administration of discipline.

After separating from their children (aged 4 to 8 years, mean 6.1), each of ten mothers (aged 23-39 years, mean 29.0) was seated between two consoles. One housed a clock, telegraph-key; and counter. The other contained

ten push-buttons numbered zero through minus nine. The mother was told that her child was assembling a puzzle in an adjacent room and that she was to monitor that performance telemetrically, without directly observing the child. Each success was marked by a tone, while each failure resulted in a buzz. Tones required no response from the mother. However, buzzing (failure) necessitated her pushing one button corresponding to the number of M & Ms (from 0 to 9) that she judged should be subtracted from a supply previously given. (This form of punishment is known as omission training.) The importance of these maternal judgments for helping her child best learn the task was emphasized; the child's only source of information that an error had been made was in her pushing a button. Concurrently, her own task was to press the telegraph-key so as to earn points registering on a counter. This task was presented to the mother as a challenging game.

"Child independent" stress was heightened by informing the mother that to earn points she must respond on her key at some high (but unspecified) rate before 30 seconds expired on the clock. This "uncertain" phase lasted 15 minutes. Before the next 15 minute "certain" phase, her response requirements were specified; that is, she was to press the key once each 30 seconds for as many points as previously. To capitalize upon any possible initial uncertainty or stress due to her just having been placed in the experimental situation, the uncertain phase always preceded the certain phase for each mother.

The two 15 min phases were each additionally divided into three 5 min periods in which the stress was child dependent. In the first period of both the Uncertain and Certain phases, the mother was signalled that her child had made 10 errors and 10 successes on the puzzle. In the second period of each phase, she was signalled that her child had made 20 errors and 20 successes. Finally, in both phases a 5 min period of 10 errors and 10

successes was repeated. (Notice that in each period the ratio of successes to failures was kept constant at one.) Thus the sequence was Uncertain with 10 errors and 10 successes, Uncertain with 20 errors and 20 successes, Uncertain with 10 and 10; Certain with 10 errors and 10 successes, Certain with 20 and 20, and finally Certain with 10 and 10. The mother was also informed that after an error by her child, her telegraph key would be rendered inoperable until she made her judgmental response.

In reality, outcomes of both the mother's and child's tasks were independent of their performances. Points obtained by the mother and the sequence of the child's "successes" and "errors" were produced by concealed electromechanical equipment according to randomly generated variable time schedules and were kept constant across all mothers to facilitate comparisons. The dependent variables were the mother's selection of punishment intensities, the latency from the onset of the buzzing to make this choice, and her rate of key-pressing. Comprehensive debriefing of the mothers was undertaken at the end of the session.

To assess whether the instructions for the mothers' key-pressing to obtain points effectively exerted control over the response rates, the frequencies of pressing when the response requirements were Uncertain and Certain were compared. As instructed, mothers pressed the key significantly more often when uncertain than when certain ($p < .025$). The number of interruptions made by the child did not significantly affect the mothers' key-pressing rate.

The slide shows the relationship among maternal punitiveness and the child independent and child dependent sources of stress. Mothers punished more intensely when their response requirements were uncertain than certain, $F(1,9) = 8.72$, $p < .025$. The child dependent stress also produced differences $F(2,18) = 2.69$, $p < .10$. Mothers punished more intensely with 20 interruptions than with 10, $t(18) = 2.31$, $p < .025$. Latency from the onset of the buzz to

the mothers' selection of a punishment intensity resulted in an interaction between child independent and dependent stressors, $F(2,18) = 3.96$, $p < .05$. When children interrupted 10 times, mothers disciplined more slowly if uncertain than certain, $t(18) = 5.41$, $p < .005$; however, with 20 interruptions no uncertain-certain differences were found. Overall, with 10 interruptions mothers were slower to punish than with 20, $t(18) = 2.01$, $p < .05$. When uncertain, mothers punished more slowly than when certain, $t(18) = 1.94$, $p < .05$.

No reliable differences due to the sex or age of the child were obtained with respect to punitiveness or latency to punish.

The present experimental research supports previous correlational work citing situational stress as a causal agent for increased parental discipline. Maternal punitiveness was not only manipulable in a laboratory but it was also affected by two different sources of stress. When mothers performed a stressful uncertain task, intensities of punishment chosen for their children's transgressions were greater than when they were relatively unstressed and unhurried by the task. If the children themselves produced stress by interrupting the mothers' work, the more interruptions they committed, the more intensely they were punished, even though as many correct responses as errors were made and the nature of the child's transgressions remained constant. These findings clearly implicate both the circumstances in which the parent is functioning and the child's behavior as determinants of the intensity of punishment administered to the child.

The time that the mothers required to make their disciplinary decisions was also affected by the demands of their tasks and the frequency of interruptions made by their children. Mothers were slowest in punishing when uncertain about their own task requirements and when their children interrupted them relatively rarely, but, when harried by many interruptions, uncertain mothers punished

more quickly. Furthermore, in the uncertain phase, the greatest intensities of punishment were associated with the least decision time. This finding is in accord with assertions (Kempe, Silverman, Steele, Droegenmueller, & Silver, 1962) that abusive parents react quickly with their aggression.

The methodology and results demonstrate a nonaversive means of analyzing parent-child variables involved in discipline and possibly child-abuse. Although the stressors were mild, the child's transgressions were minor, and the type of punishment was noncorporal, more stressful and realistic situations might have evoked stronger punishments and perhaps child-abuse. It is clear that there is more than one simple, causal variable involved in child-abuse (Alvy, 1975; Gelles, 1973). Yet, by demonstrating the sufficiency of two stressors to heighten punitiveness, the results appear contrary to arguments that situational stress is neither necessary nor sufficient for abuse (Spinetta & Rigler, 1972). Although the necessity of parental psychopathology for child-abuse is debated in the literature (Alvy, 1975; Gelles, 1973), this study demonstrated that the presence of psychopathology is not required to predispose mothers to punish more intensely while under stress. Punitiveness was manipulated by situational factors in a randomly selected, heterogenous population of presumably normal mothers with no history of child-abuse or emotional difficulties.

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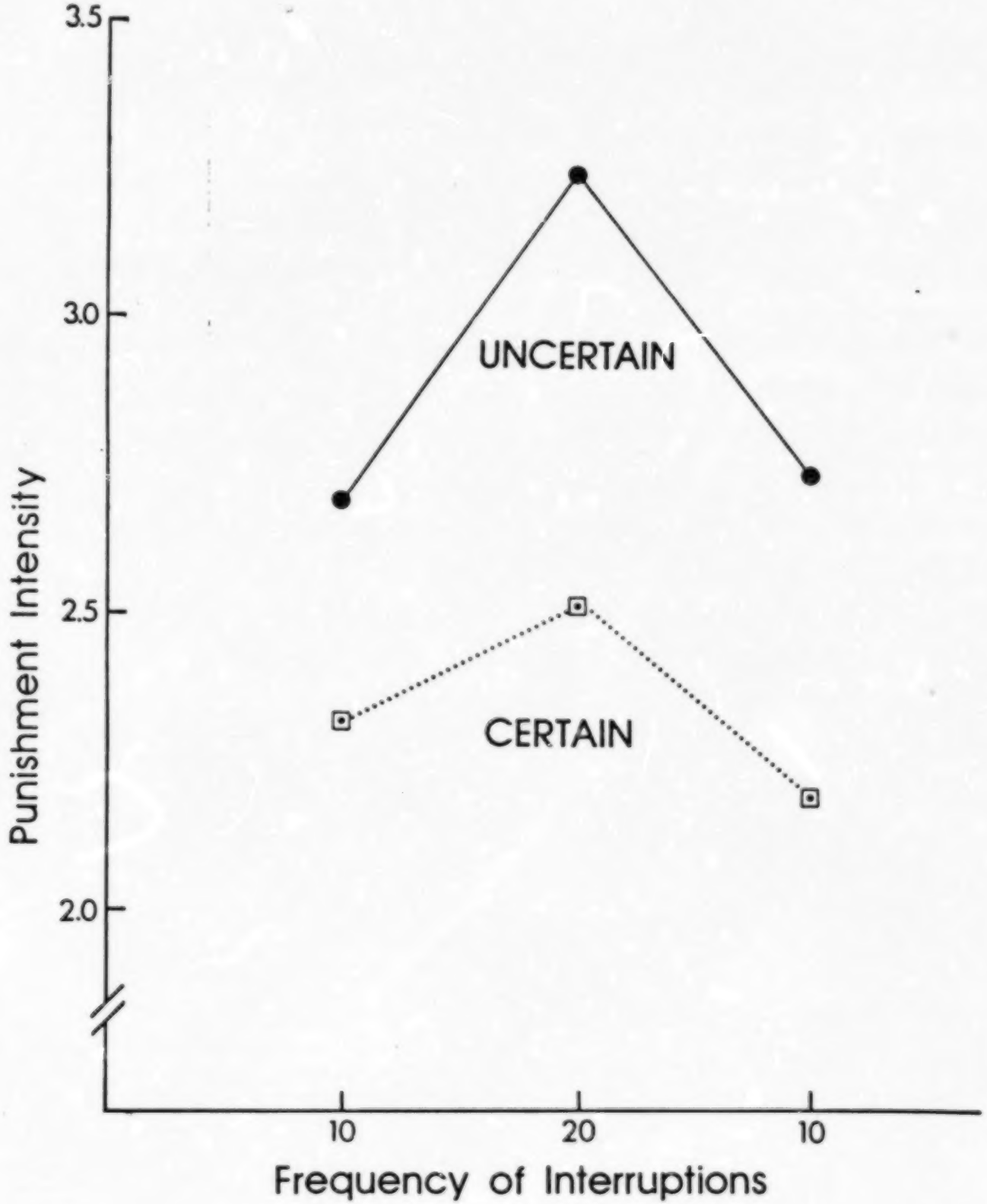
Figure Captions

Figure 1. Mean punishment intensity selected by mothers as a function of the frequency of their children's interruptions and the uncertainty of the requirements for their key-pressing task.


3.5
3.0
2.5
2.0
Punishment Intensity
UNCERTAIN
CERTAIN
10
20
10
Frequency of Interruptions